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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,639	02/27/2004	Per-Ola Kristensson	ARC920040008US1	7219

55589 7590 12/04/2008  
FLEIT, GIBBONS, GUTMAN, BONGINI & BIANCO P.L.  
551 NW 77TH STREET  
SUITE 111  
BOCA RATON, FL 33487

EXAMINER
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LEE, JOHN W

ART UNIT	PAPER NUMBER
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2624

NOTIFICATION DATE	DELIVERY MODE
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12/04/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptoboca@fggbb.com



**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 1-8, 10-14, 17-19, 37-38, 40-55 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 1-8, 10-14, 17-19 and 43-44 have features such as converting each different aspect of the stroke's similarity to probability estimates and mathematically integrating the probability estimates of the plurality of channels to produce integrated probability estimates of candidate words, claims 37-38, 40-42 and 49-55 have features such as determining a time spent inputting the stroke and modifying the location-based similarity probability estimate according to a path of the stroke on the virtual keyboard and the time spent inputting the stroke to produce an output of the at least one location channel. Claims 45-48 have features such as converting each different aspect of the stroke's similarity to probability estimates, measuring time spent on inputting the stroke, mathematically integrating the probability estimates Of the plurality of channels to produce integrated probability estimates of candidate words, and time information being used to adjust a relative weight between the path location channel and the normalized path shape channel in the mathematical integration of the probability estimates of two channels.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 1-8, 10-14, 17-19, 37-38, 40-55

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withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kristensson (“Design and Evaluation of a Shorthand Aided Soft Keyboard”).

Regarding claim 21, Kristensson discloses a shorthand symbol system for recognizing words (chapter 3.6, “SHARK system”), comprising: a graphical keyboard layer (Figure B-2) for accepting a stroke as an input trace (chapter 3.7.1, “spatial relations with the individual characters position on the keyboard”), wherein the keyboard layer (Figure B-2) contains a set of characters forming elements (chapter 3.7.1, “spatial relations with the individual characters position on the keyboard”) in the word without temporary target letters being placed adjacent to a current stroke location (chapter 3.7.1, “do not contain ... reproduce an exact pattern on the keyboard”); a storage for storing word patterns of a plurality of paths (Figure B-3, “ThreadDataExchange”), wherein each path connects a set of letters received (Figure B-3, “Write” and “read”) from the graphical keyboard layer (Figure B-2); a pattern recognition engine (Figure B-3, “recognizer”) that recognizes a word pattern by processing the stroke using a combination of a plurality of channels (chapter 6.1.2, “partial location dependence; chapter 4, “shape”), each channel

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selectively processing a different aspect of the input trace in relation to the plurality of the paths on the graphical keyboard layer (chapter 3.7.1, “spatial relations with the individual characters position on the keyboard”), one channel of the plurality of channels processing a location-based similarity probability estimate (Chapter 4.2.2.1, “elastic matching”); and a computer for mathematically integrating outputs of the plurality of channels to produce an integrated probability estimate of a candidate word (Figure 4-7; chapter 4.2.2.1, “Dynamic time warping algorithm”).

Regarding claim 22, Kristensson discloses comprising normalized shape information independent of location and scale (chapter 4, “shape”).

Regarding claim 23, Kristensson discloses comprising path location information regarding sampling points of the stroke, each sampling point having a weight (equations 4.5 and 4.6; chapter 4.2.3.1, “point to point distance”).

Regarding claim 24, Kristensson discloses wherein the plurality of channels comprising a tunnel model channel (Appendix B; Figure B-2, “notepad GUI”).

Regarding claim 25, Kristensson discloses wherein the plurality of channels comprising a language context channel (Appendix D).

Regarding claim 26, claim 26 is analogous and corresponds to claims 22-25. See rejection of claims 22-25 for further explanation.

Regarding claim 27, Kristensson discloses wherein the word letters comprise letters from an alphabet (Appendix B; Figure B-2, “notepad GUI”).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kristensson ("Design and Evaluation of a Shorthand Aided Soft Keyboard") in view of Carman, II (US 5,454,046).

Regarding claim 28, Kristnesson discloses all the claim limitations of the previous claim except the claim limitation of claim 28. However, Carman discloses wherein the world letters comprising letters from Chinese pinyin character ("that an abbreviated Chinese handwritten entry can be trained for recognition (abstract)").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Carman's invention in Kristnesson's invention to provide handwritten data readable and reproducible by the computer as suggested by Carman (col. 2, lines 20-23).

6. Claims 30-32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kristensson ("Design and Evaluation of a Shorthand Aided Soft Keyboard") in view of Milewski et al. ("Medical Word Recognition Using a Computational Semantic Lexicon").

Regarding claim 30, Kristensson discloses all the claim limitations of the previous claim except the claim limitation of claim 30. However, Milewski teaches wherein the word patterns being based on lexicon ("a recognition method for pattern recognition involving lexicon (abstract)"), and wherein the lexicon comprising a very large collection of words used in a natural language ("the recognition method deals with medical forms that contain lots of medical words (pages 401-402)").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Milewski's method in Niemeier's invention to provide a hybrid semantic network as suggested by Milewski (page 402).

Regarding claim 31, Milewski further teaches wherein words in the lexicon being rank ordered by usage frequency, and more frequent words are given higher a priori probability ("a lexicon database will contain a list of English and medical words which are weighted according to the popularity of that word over time (page 402)").

Regarding claim 32, Milewski further teaches wherein the lexicon being customized from an individual user's previous documents ("a priori data will be used for further recognition in the larger handwriting regions (page 402)") for a specific application, and wherein part of the customized lexicon being based on a computer programming language ("a data compiler, a graphic user interface (GUI), and a Java Constrained Object Inference Net (page 402)").

Regarding claim 35, Milewski further teaches wherein the lexicon being customized for a specific domain ("the objective and comments region contain lots of

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varying abbreviations, symbols, and numbers in conjunction with regular handwriting, and a general path can be used to narrow in on specific problems (page 402)").

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN Wahnkyo LEE whose telephone number is (571)272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published



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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/

Supervisory Patent Examiner, Art Unit 2624

/John Wahnkyo Lee/  
Examiner, Art Unit 2624